

CERTIFIED MAIL -RETURN RECEIPT REQUESTED

July 10, 1990

Dr. James E. Crowley
Director, Environmental Control
Ciba-Geigy Corporation
444 Saw Mill River Road
Ardsley, NY 10502

RE: Ciba-Geigy Consent Order: RCRA Docket No., I-88-1088
RFI Proposal - Phase 1A Approval - Cranston, RI Facility

Dear Dr. Crowley:

The EPA has completed its review of Ciba-Geigy's RCRA Facility Investigation (RFI) proposal submitted on April 2, 1990. In accordance with Section II of the Consent Order, the Agency has approved Phase 1A of the RFI Proposal under the condition that the following modifications to Phase 1A are implemented.

1) Volume 1 - Chapter 3: Page 3-5

The use of a hammer or explosive signal source for the seismic refraction survey should be determined based on performance. If using a hammer for a signal produces insufficient data on bedrock then an explosive signal must be used. In any case, Ciba-Geigy should be prepared to use both signal generating methods.

2) Volume 1 - Chapter 3: Page 3-12

Three of the deep piezometers (P-19D, P-21D, P-22D) shall be installed in borings that reach till or bedrock. The remaining deep piezometers (P-18D & P-20D) shall be installed in borings that reach, but do not penetrate, a confining layer.

- * * Ciba-Geigy must understand that by the completion of all field tasks in Phases I and II a sufficient number of piezometers must be installed to identify ground water flow directions, and hydraulic gradients within various



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formations. If the results of the Phase IA Investigation do not fully characterize the geology and hydrology (consolidated and unconsolidated) then this characterization shall be completed in a subsequent Phase. This may include explorations beneath confining layers.

- 3) Volume 1 - Chapter 3: Page 3-12

Hydraulic conductivity for unsaturated soils may be estimated based on particle size analysis.

- 4) Volume 1 - Chapter 3: Page 3-14

In addition to hydraulic conductivity testing of saturated soils, estimates of hydraulic conductivity of saturated soils shall be determined based on particle size analysis.

- 5) Volume 1 - Chapter 3: Page 3-17

Well RW-4 will not be accepted as a background water quality well.

- 6) Volume 1 - Chapter 3: Page 3-22

In addition to the six proposed bed sediment samples an additional two (at a minimum) bed sediment samples shall be retrieved from the Pawtuxet River. One of these bed sediment samples shall be taken at transect TR-F01. This transect (TR-F01) shall be relocated upstream of the discharge from Bellefont Pond. The other bed sediment sample shall be taken downstream of the facility property boundary at either transect TR-F09 or TR-F10.

- 7) It is understood that more seismic lines and resistivity soundings may be required in Phase II of this investigation.
- 8) All sections of Volume 2 that relate to Phase 1A are also approved.
- 9) All Phase 1A Field Tasks and the Phase 1A Report shall be completed within the timeframes outlined in Volume 1 - Chapter 2: Figure 5-2 (Tasks No. 1-4). EPA will expect to receive the Phase 1A Report thirteen (13) weeks after receipt of this letter. The Phase 1A Report shall identify the results, interpretations and conclusions of the Phase 1A study and any proposed changes to the Phase 1B Investigation based on these results, interpretations and conclusions.

Comments on the remainder of the RFI proposal have already been communicated to you. It is EPA's objective to resolve these comments concurrently with implementation of Phase 1A. This will be accomplished by working with you and your consultants to revise sections/pages of the RFI proposal. Once this is accomplished an approval of the remaining document will be forthcoming.

If you have any questions, please contact Frank Battaglia at (617) 573-9643.

Sincerely yours,

Gary B. Gosbee, Chief
MA & RI Waste Regulation Section

cc: Mark Houlday, Woodward-Clyde Consultants
Carol Wasserman, Office of Regional Counsel, EPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

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Director, Environmental Control
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444 Saw Mill River Road
Ardsley, NY 10502

RE: Ciba-Geigy Consent Order: RCRA Docket No., I-88-1088
RFI Proposal - Phase 1A Approval - Cranston, RI Facility

Dear Dr. Crowley:

The EPA has completed its review of Ciba-Geigy's RCRA Facility Investigation (RFI) proposal submitted on April 2, 1990. In accordance with Section II of the Consent Order, the Agency has approved Phase 1A of the RFI Proposal under the condition that the following modifications to Phase 1A are implemented.

1) Volume 1 - Chapter 3: Page 3-5

The use of a hammer or explosive signal source for the seismic refraction survey should be determined based on performance. If using a hammer for a signal produces insufficient data on bedrock then an explosive signal must be used. In any case, Ciba-Geigy should be prepared to use both signal generating methods.

2) Volume 1 - Chapter 3: Page 3-12

Three of the deep piezometers (P-19D, P-21D, P-22D) shall be installed in borings that reach till or bedrock. The remaining deep piezometers (P-18D & P-20D) shall be installed in borings that reach, but do not penetrate, a confining layer.

- * * Ciba-Geigy must understand that by the completion of all field tasks in Phases I and II a sufficient number of piezometers must be installed to identify ground water flow directions, and hydraulic gradients within various



formations. If the results of the Phase 1A Investigation do not fully characterize the geology and hydrology (consolidated and unconsolidated) then this characterization shall be completed in a subsequent Phase. This may include explorations beneath confining layers.

- 3) Volume 1 - Chapter 3: Page 3-12

Hydraulic conductivity for unsaturated soils may be estimated based on particle size analysis.

- 4) Volume 1 - Chapter 3: Page 3-14

In addition to hydraulic conductivity testing of saturated soils, estimates of hydraulic conductivity of saturated soils shall be determined based on particle size analysis.

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Well RW-4 will not be accepted as a background water quality well.

- 6) Volume 1 - Chapter 3: Page 3-22

In addition to the six proposed bed sediment samples an additional two (at a minimum) bed sediment samples shall be retrieved from the Pawtuxet River. One of these bed sediment samples shall be taken at transect TR-F01. This transect (TR-F01) shall be relocated upstream of the discharge from Bellefont Pond. The other bed sediment sample shall be taken downstream of the facility property boundary at either transect TR-F09 or TR-F10.

- 7) It is understood that more seismic lines and resistivity soundings may be required in Phase II of this investigation.

- 8) All sections of Volume 2 that relate to Phase 1A are also approved.

- 9) All Phase 1A Field Tasks and the Phase 1A Report shall be completed within the timeframes outlined in Volume 1 - Chapter 2: Figure 5-2 (Tasks No. 1-4). EPA will expect to receive the Phase 1A Report thirteen (13) weeks after receipt of this letter. The Phase 1A Report shall identify the results, interpretations and conclusions of the Phase 1A study and any proposed changes to the Phase 1B Investigation based on these results, interpretations and conclusions.

Comments on the remainder of the RFI proposal have already been communicated to you. It is EPA's objective to resolve these comments concurrently with implementation of Phase 1A. This will be accomplished by working with you and your consultants to revise sections/pages of the RFI proposal. Once this is accomplished an approval of the remaining document will be forthcoming.

If you have any questions, please contact Frank Battaglia at (617) 573-9643.

Sincerely yours,

for Frank Battaglia
Gary B. Gosbee, Chief
MA & RI Waste Regulation Section

cc: Mark Houlday, Woodward-Clyde Consultants
Carol Wasserman, Office of Regional Counsel, EPA

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 RFI Proposal - Phase 1A Approval - Cranston, RI Facility

Dear Dr. Crowley:

The EPA has completed its review of Ciba-Geigy's RCRA Facility Investigation (RFI) proposal submitted on April 2, 1990. In accordance with Section II of the Consent Order, the Agency has approved Phase 1A of the RFI Proposal under the condition that the following modifications to Phase 1A are implemented.

1) Volume 1 - Chapter 3: Page 3-5

The use of a hammer or explosive signal source for the seismic refraction survey should be determined based on performance. If using a hammer for a signal produces insufficient data on bedrock then an explosive signal must be used. In any case, Ciba-Geigy should be prepared to use both signal generating methods.

2) Volume 1 - Chapter 3: Page 3-12

Three of the deep piezometers (P-19D, P-21D, P-22D) shall be installed in borings that reach till or bedrock. The remaining deep piezometers (P-18D & P-20D) shall be installed in borings that reach, but do not penetrate, a confining layer.

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CONCURRENCES							
SYMBOL	HRR	HRR					
SURNAME	<i>B. H. H. H.</i>	<i>B. H. H. H.</i>					
DATE	7/10/90	7/10/90					

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formations. If the results of the Phase IA Investigation do not fully characterize the geology and hydrology (consolidated and unconsolidated) then this characterization shall be completed in a subsequent Phase. This may include explorations beneath confining layers.

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- 4) Volume 1 - Chapter 3: Page 3-14

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- 7) It is understood that more seismic lines and resistivity soundings may be required in Phase II of this investigation.
- 8) All sections of Volume 2 that relate to Phase 1A are also approved.
- 9) All Phase 1A Field Tasks and the Phase 1A Report shall be completed within the timeframes outlined in Volume 1 - Chapter 2: Figure 5-2 (Tasks No. 1-4). EPA will expect to receive the Phase 1A Report thirteen (13) weeks after receipt of this letter. The Phase 1A Report shall identify the results, interpretations and conclusions of the Phase 1A study and any proposed changes to the Phase 1B Investigation based on these results, interpretations and conclusions.

Comments on the remainder of the RFI proposal have already been communicated to you. It is EPA's objective to resolve these comments concurrently with implementation of Phase 1A. This will be accomplished by working with you and your consultants to revise sections/pages of the RFI proposal. Once this is accomplished an approval of the remaining document will be forthcoming.

If you have any questions, please contact Frank Battaglia at (617) 573-9643.

Sincerely yours,

Gary B. Gosbee, Chief
MA & RI Waste Regulation Section

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